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10/665,418	09/22/2003	Daisuke Sato	117218	6508
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OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER BODDIE, WILLIAM	
			ART UNIT 2629	PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.



### **DETAILED ACTION**

1. In an amendment dated, 4/26/06, the Applicant amended claims 1, 2, 5-12, 16, and 20-23. Currently claims 1-23 are pending.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

3. Claims 1-23 have been sufficiently amended to over the prior objection to the use of the phrase two-dimensional or three-dimensional object. As such this objection is withdrawn.
4. However, Applicant is pointed once again to claims 7 and 8 that recite, "the feature point of the image". There continues to be no discussion of feature points in claims 1 and 2, upon which claims 7 and 8 depend. Simply altering "the feature point" to read,--*a feature point*--, would be sufficient to overcome the objection. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 7-8, and 11-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (US 6,501,846) in view of Fischer et al. (US 4,185,270).

**With respect to claim 1**, Dickinson et al. discloses, an input device comprising: an image capture section which captures an image of a two-dimensional or three-dimensional object (fig. 1);

an image comparison section (block 128 in fig. 8) which compares the image of the two-dimensional or three-dimensional object captured by the image capture section with registered information (block 126 in fig. 8; col. 20, lines 25-27),

a movement detection section (block 130 in fig. 8) which detects movement of the two-dimensional or three-dimensional object by using the image of the two-dimensional or three-dimensional object when it is determined that the registered information includes information corresponding to the image of the two-dimensional or three-dimensional object according to a result of comparison by the image comparison section (col. 19, lines 61-67, col. 20, lines 1-33); and

a control information output section (image processor generates output control signals; col. 10, lines 3-6) which outputs control information corresponding to a parameter type associated with the registered information (parameter type is the specific authorized user associated with each fingerprint; col. 3, lines 22-24) corresponding to the image of the two-dimensional or three-dimensional object based on a detection result of the movement detection section (col. 10, lines 11-40 details the use of the fingerprint analysis device),

wherein the image capture section includes a detection surface and captures the image of the detection being in contact with the detection surface (col. 20, lines 5-20, discusses the capturing of images once the user's finger is in contact with the device).

Dickinson does not expressly disclose, wherein the control information output section outputs the control information of at least one rotation directions around first and second axes which intersect each other on the detection surface.

Fischer II discloses, a control information output section (26 in fig. 11) that outputs control information of at least one rotation directions (col. 8, lines 22-28) around first and second axes (X and Y in fig. 7; note rotation angles in fig. 7) which intersect each other.

Dickinson and Fischer II are analogous art because they are from the same field of endeavor namely, fingerprint imaging and analysis.

At the time of the invention it would have been obvious to detect the rotation directions, as taught by Fischer II, of the objects of Dickinson.

The motivation for doing so would have been to allow fingerprints to be matched regardless of rotation to the imaging apparatus (Fischer II, col. 1, lines 18-39).

Therefore it would have been obvious to combine Fischer II with Dickinson for the benefit of rotation independent analysis to obtain the invention as specified in claim 1.

**With respect to claim 2**, the only additional limitation over claim 1 is the inclusion of a registered information storage section which stores registered information

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corresponding to parameter type. Dickinson and Fischer II disclose claim 1 (see above).

Dickinson further discloses, a registered information storage section which stores registered information corresponding to parameter type (col. 10, lines 11-40, specifically note line 22, which details a memory being included to store finger images).

**With respect to claims 7 and 8**, Dickinson and Fischer II disclose, the input device as defined in claims 1 and 2 (see above).

Dickinson further discloses, wherein the movement detection section detects the movement of the two-dimensional or three-dimensional object by using the feature point of the image (col. 17, lines 63-67 details a feature point algorithm (minutia extraction algorithm); later col. 19, line 61-col. 20 line 3 discusses using the image of a fingerprint to discern movement).

**With respect to claims 11 and 12**, Dickinson and Fischer II disclose, the input device as defined in claims 1 and 2 (see above).

Dickinson further discloses, wherein the control information output section outputs the control information of first and second axis directions which intersect each other at right angles on the detection surface (col. 21, lines 1-6 discusses the multitude of directions that can be discerned by the device, note specifically up/down, left/right. Clearly these are first and second axis directions that intersect each other as described in claim 12).

**With respect to claim 13**, Dickinson and Fischer II disclose, the input device as defined in claim 2 (see above).

Dickinson further discloses, a registration section (memory), which registers the registered information (fingerprints) according to the parameter type (col. 3, lines 22-23).

**With respect to claims 14 and 15**, Dickinson and Fischer II disclose, the input device as defined in claims 1 and 2 (see above).

Dickinson further discloses, wherein the registered information (fingerprints stored in the memory) includes a plurality of pieces of image information (stores several authorized users' fingerprints, col. 3, lines 61-65), the parameter type being associated with each piece of the image information (parameter as stated above is the authorized user information that is associated with each fingerprint image).

**With respect to claims 16 and 17**, Dickinson and Fischer II disclose, the input device as defined in claims 1 and 2 (see above).

Dickinson further discloses, wherein the image of the two-dimensional or three-dimensional object is a fingerprint image (col. 9, lines 32-35; fig. 7a/b).

**With respect to claim 18 and 19**, Dickinson and Fischer II disclose, an information device comprising: the input device as defined in claims 1 and 2 (see above).

Dickinson further discloses, a processing section (processor) which performs control processing based on the control information from the input device (col. 10, lines 3-6 and 11-35; disclose the use of a processor to perform processing based on inputs from the fingerprint inputs.).

**With respect to claims 20-23**, these claims are merely method versions of claims 1, 11 and 16. Therefore claims 20-23 are rejected on the same merits as shown above in the rejections of claims 1, 11 and 16.

7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (US 6,501,846) in view of Fischer et al. (US 4,185,270) and further in view of Matusis (US 6,603,462).

**With respect to claims 3 and 4**, Dickinson and Fischer II disclose, the input device as defined in claims 1 and 2 (see above).

Neither Dickinson nor Fischer II expressly disclose, wherein the registered information is a feature point of the image.

Matusis discloses, wherein the registered information is a feature point of an image (510b in fig. 5, col. 5, lines 50-52).

Matusis, Dickinson and Fischer II are all analogous art because they are both from the same field of endeavor namely, fingerprint imaging and analysis.

At the time of the invention it would have been obvious to analyze images the input images, of Dickinson and Fischer II, based on feature points as disclosed by Matusis.

The motivation for doing so would have been, that storing feature points alone allows for smaller memory storage of fingerprints, and allows for faster comparison between stored fingerprints.



Therefore it would have been obvious to combine Dickinson and Fischer II with Matusis for the benefit of faster comparison to obtain the invention as specified in claims 3 and 4.

**With respect to claims 5 and 6**, Dickinson and Fischer II and Matusis disclose, the input device as defined in claims 3 and 4 (see above).

Matusis further discloses, wherein the feature point is extracted from the image of the two-dimensional or three-dimensional object captured by the image capture section (510b in fig. 5, col. 5, lines 58-65).

8. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickinson et al. (US 6,501,846) in view of Fischer II et al. (US 4,185,270) and further in view of Schiller (US 4,752,966).

**With respect to claims 9 and 10**, Dickinson and Fischer II disclose, the input device as defined in claims 1 and 2 (see above).

Dickinson further discloses, wherein the movement detection section detects the movement of an object using a fingerprint image (col. 19, lines 61-62).

Neither Dickinson nor Fischer II expressly disclose, wherein the movement detection section detects the movement of the two-dimensional or three-dimensional object using a center of gravity of the image, and

wherein the center of gravity is calculated from the image of the two-dimensional or three-dimensional object captured by the image capture section.

Schiller discloses, comparing fingerprints using a center of gravity of the image, and wherein the center of gravity is calculated from the image of the two-dimensional or

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three-dimensional object captured by the image capture section (col. 11, lines 17-26, discloses a process that is similar to movement detection; also note col. 5, lines 65-68, which details the use of a center pixel to base all of the subsequent processing off of.).

Schiller, Dickinson and Fischer II are all analogous art because they are both from the same field of endeavor namely, fingerprint imaging and analysis.

At the time of the invention it would have been obvious to calculate and base the movement detection, taught by Dickinson and Fischer II, on the center of gravity of the fingerprint image, disclosed by Schiller.

The motivation for doing so would have been, to increase the speed of movement detection (Schiller, col. 2, lines 10-11).

Therefore it would have been obvious to combine Dickinson and Fischer II with Schiller for the benefit of faster detection to obtain the invention as specified in claims 9 and 10.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Will Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wlb  
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